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AMPHIAREUS CONSTRICTUS (STÅL) (HEMIPTERA: HETEROPTERA: ANTHOCORIDAE) FROM CALIFORNIA: CLARIFICATION OF PREVIOUS RECORD AND CITATION

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Abstract.—Clarification is provided on the origin of specimens of *Amphiareus constrictus* (Stål) from San Francisco, California. These specimens were interecepted in a shipment of orchids from Colombia, South America.

Key Words: Anthocoridae, introductions, customs interceptions, United States

Amphiareus constrictus (Stål) 1860 was described from Rio de Janeiro, Brazil, in the genus *Xylocoris*. Subsequently, it has been reported from other locations around the world [e.g. Australia (Gross 1955); Galápagos Islands (Herring 1966); Hawaii (Zimmerman 1948); India (Distant 1906); Japan (Hiura 1958); Mexico (Champion 1900); United States (Blatchley 1926)], often under names now considered synonyms of *Xylocoris constrictus*. Several species were synonymized with this species including *Xylocoris fulvescens* Walker, 1872; *Xylocoris fumipennis* Walker, 1872; and *Cardiastethas macilentus* Hiura, 1958. The reader is referred to Herring (1965) for the review and resolution of the taxonomic problem and Henry (1988) who reviewed selected references. Note that Péricart (1996) did not consider *Xylocoris fumipennis* Walker, 1872, a synonym of *A. constrictus*. The only published record of the occurrence of it in the United States was that of Blatchley (1926) who reported it under the combination *Poronotus constrictus* from Dunedin, Florida, collected "Dec 11 - April 14" where it was "common beneath cover in dry sandy places near the bay beach; especially so in or beneath piles of dead cabbage palmetto leaves, in decaying fungi and beneath freshly cut pine blocks."

Hiura (1958) described *Cardiastethus macilentus* from Jinzenji, Kôchi-City, Shikoku, Japan, and provided a detailed description and comparison with *C. pygmaeus* Poppius, an illustration of the adult, and a measured outline of the head, antenna, and prothorax. Subsequently, Hiura (1960) placed his species into synonymy with *Amphiareus fulvescens* (Walker), a species later synonymized under *Amphiareus constrictus* (Stål) (Herring 1965), after receiving specimens of *Poronotellus constrictus* (Stål) from R.I. Sailer (then of the U.S. Department of Agriculture, Systematic Entomology unit at the National Museum of Natural History, Washington, DC) labeled San Francisco, California. Hiura (1960) provided a discussion of the complicated problem of the proper name for the species; the solution resolved ultimately by Herring (1965). Referring to the habits of his own species, Hiura (1960) stated "Habits: - the bug lives in the piles of harvested stems and leaves (e.g., wheat, sweet potato-vine), firewood, and sometimes is attracted to light at

night." Further, he captured a specimen that had flown into the cabin of a passenger boat touching port. In Guam, specimens were obtained from "dead orange twigs." His descriptions of other habitats where the species was found were similar to those given by Blatchley (1926).

Amphiareus constrictus is a small species (2.2–2.8 mm). The second antennal segment is slightly enlarged and segments three and four are slender. The pronotum has a distinct transverse impression that sets off the anterior portion while the posterior portion has a longitudinal impression and a broadly concave posterior margin. The anterior and posterior angles of the pronotum have a long erect seta and another long seta originates about one-quarter the distance back from each anterior angle. The clavus is distinctly punctate with coarse punctures with a seta in each impression, the balance of the hemielytra have scattered, semi-decumbent setae; the membrane has three veins. Hiura (1960) illustrated the male genital capsule with the clasper in place (as *Poronotellus constrictus* Stål), and Zimmerman (1948) illustrated the adult of the same species under the name *Cardiastethus fulvescens* (Walker).

T. J. Henry was unable to locate any specimens in the collection of the National Museum of Natural History, Smithsonian Institution, Washington, DC with labels similar to the publication by Hiura (1960) (personal communication with T. Lewis, 1999). The two specimens sent to Japan by Sailer are in the Osaka Museum of Natural History, Osaka, Japan. I. Kangzawa, now responsible for the insects of this museum, very kindly provided us the following information: a specimen with the label "Colombia, wild orchids. D.C. Inspect. House. XII, 26. 39. *Poronotellus constrictus* Stål"; and one specimen missing, but the label "Colombia, on orchid. S. Francisco, Cal. 4-30-41. *Poronotellus constrictus*" present (presumably Hiura used the specimen for dissection for comparison with his own species). This information clarifies the origin of the specimen(s) collected in San Francisco, California, in 1941 - their interception in a shipment of orchids from Colombia, South America.

More recently, Cassis and Gross (1995) reported this species (as *Amphiareus constrictus*) from Australia and other localities around the world, suggesting introductions elsewhere. The details of the collection at San Francisco provide at least one mode of introduction, movement in commercial plant materials.

This species appears to be native to South America (Stål's original description from Brazil in 1860), but now seemingly introduced into many other parts of the world. An established population in the San Francisco area has not yet been documented but might be found in Golden Gate Park, San Francisco, where another non-indigenous species of Anthocoridae, *Buchananiella continua* (White), now established, has been found.

Judging from the comments of Blatchley (1926) and Hiura (1958, 1960), the species occurs most commonly beneath piles of dead plant materials and fungi on the ground, while specimens from Guam were beaten from dead orange twigs (Hiura 1960). These habitats resemble those of other species of Anthocoridae found on Pacific Islands and elsewhere where many of the bugs have been taken beating clusters of dead leaves and branches. Some of these instances included the occurrence of Psocoptera living in the same environment (e.g., Lattin 1999). The generalist predatory feeding habits of some Anthocoridae in habitats likely to be found many places around the world might result in wide dispersal: close attention to specific habitats where future specimens are collected will add to our knowledge.

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